

Environment and project background

This report presents the results of the archaeological work associated with the excavation of the Roman villa complex at Druce Farm which took place between 2012 and 2018. Figure 1.1 is the key for all archaeological sections and plans.

Location

The site on Druce Farm is located approximately 6.5km to the north-east of Dorchester in the parish of Puddletown, Dorset (Fig. 1.2). The villa and its environs are set within an area of land measuring 190m by 220m (c. 4.2 hectares) on the south-west corner of the farm (centred on SY 3733 9540). The complex overlooks the River Piddle to the south and occupies south-facing sloping land on two fields, Lower Limepits and Eleven Acres, which lie

between 90m and 70m above Ordnance Datum (OD). The aerial photograph (Fig. 1.3) shows the excavation areas in both fields in 2017; their location within the boundaries of Druce Farm is illustrated on Figure 19.1.

Landscape and geology

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The villa site is situated on the south-facing slope of the River Piddle valley; Fig. 1.4. illustrates its location and the contours. The slope has a gradient of approximately 1:12 and terminates in a narrow flat terrace and slight drop where it meets the river floodplain. Immediately to the east of the villa is a shallow dry valley running north-south. The Piddle (a chalk stream) rises at Alton Pancras and flows roughly south-east into Poole Harbour over 20 kilometres

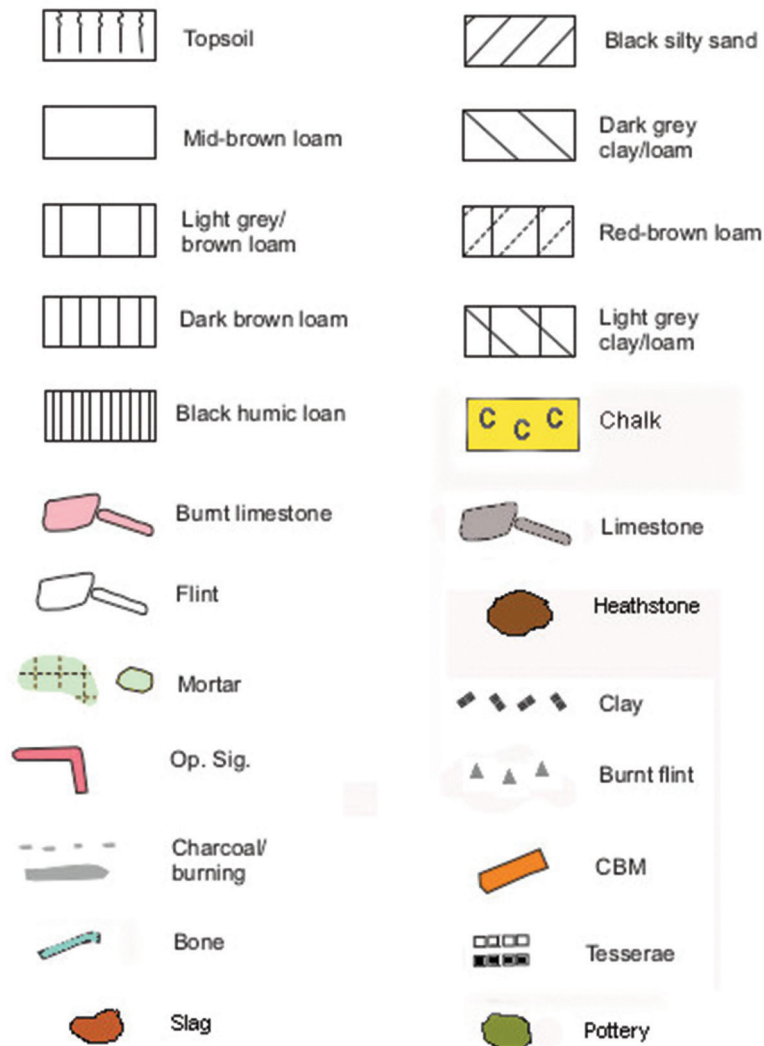


Fig. 1.1. Key to section and plan drawings

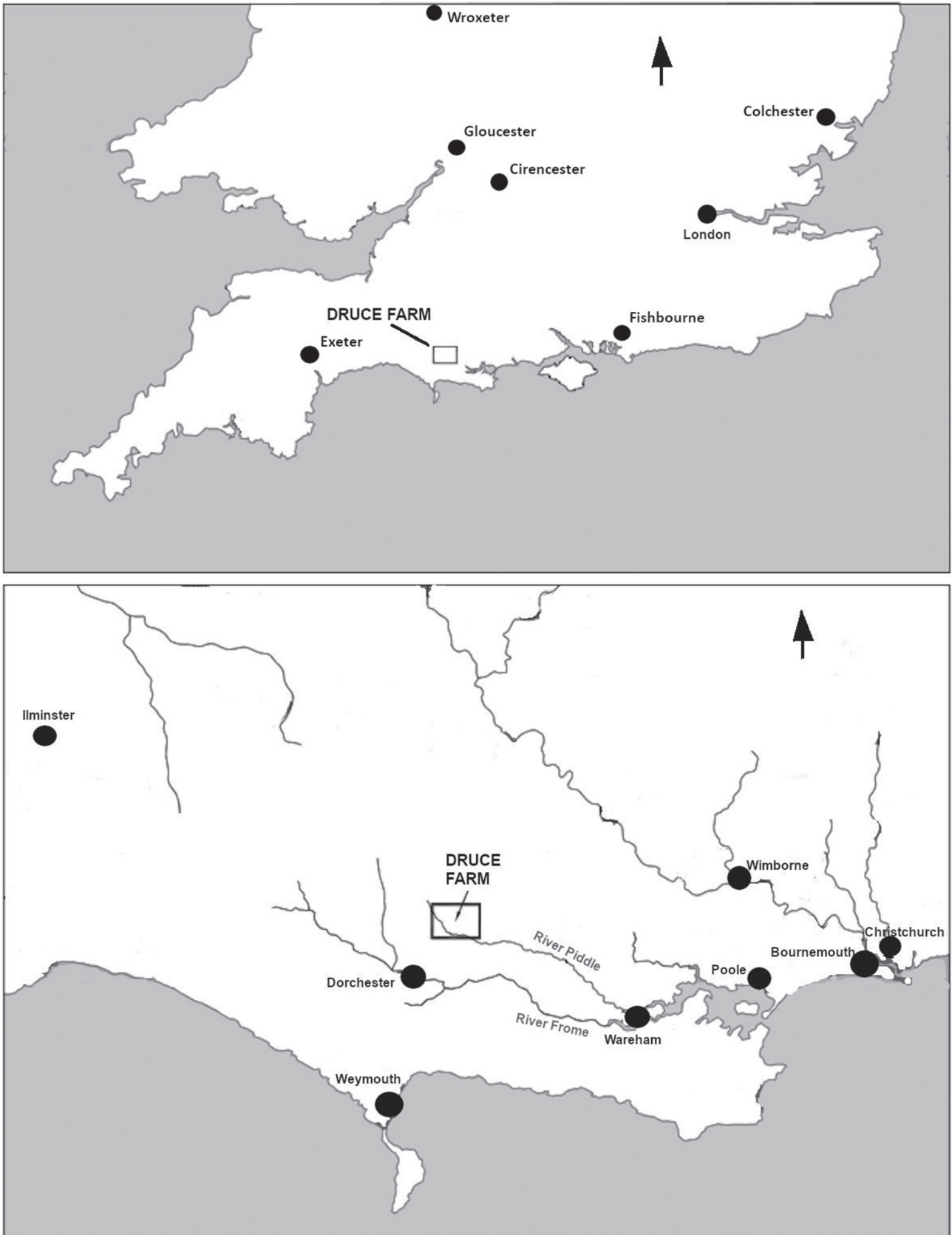


Fig. 1.2. Location of Druce Farm (upper) in Southern England in relation to major Roman sites noted in the text (lower), in Dorset

away. A spring is located just beyond the south-west corner of Lower Limepits field. By the early 19th century its flow had been redirected along a leat to feed cress beds further down river. The land throughout the wider area is now used

primarily for arable farming. Some of the field boundaries, including those between Lower Limepits and Eleven Acres, are approximately 8m to 10m wide, are wooded and were planted for game-shooting purposes.



Fig. 1.3. Aerial view of the Druce site in 2017 with the extent of the excavations outlined in red. The Early Neolithic area and Early Roman features are located in Eleven Acres (to the left) and the villa complex is in Lower Limepits (to the right), view from the south.

The underlying bedrock is chalk, forming part of the chalk downlands that extend over much of central Dorset. This is overlain by superficial deposits of clay-with-flints. The surface of the chalk is irregular due to erosion and dissolution, with evidence of palaeo-channels (pit-like sink-holes) and vertical dissolution pipes of varying depth and width. In places the chalk is exposed after the shallow topsoil has been removed, whilst elsewhere it is several metres below the surface. The clay-with-flints is a heterogeneous and un-bedded formation comprising orange-brown or red-brown sandy clay with abundant small and medium-sized angular flint pebbles. In several places there is a basal layer, up to 100mm thick, comprising dark reddish-brown stiff clay containing fresh flint nodules stained black or dark green with manganese. The river floodplain is filled with a fertile mix of alluvium consisting of clay, silt, sand and gravel.

The chalk is an important resource, providing an endless supply of flint nodules, and is also used to make lime that can be mixed with sand to create mortar and plaster. The lime can also be applied to the soil as a fertiliser. Numerous pits have been quarried throughout the ages for the extraction of flint and chalk. There are large steep-sided depressions to the north of Lower Limepits field

and in the middle of Eleven Acres field that are recorded as abandoned pits (see Figs 1.3 and 1.5). The clay-with-flints is a plastic material that has been used to remodel the landscape and create terraces, particularly for building purposes. These terraces provide a strong base that can support load-bearing walls without additional foundations.

The villa is located in the exact centre of the county of Dorset. A circle with a 40-kilometre radius will encompass the whole county, touching the River Lim in the west, the river Avon to the east and extending beyond the Vale of Blackmore to the north.

The site

The field work and management of the site was undertaken by members of the East Dorset Antiquarian Society (EDAS) supported by members of other local societies, with input and advice from professional colleagues.

Project background

In the early 2000s, the farm owner Mrs Ann Ridout gave permission for the Stour Valley Search and Recovery Club to metal detect on the farm. This resulted in several areas

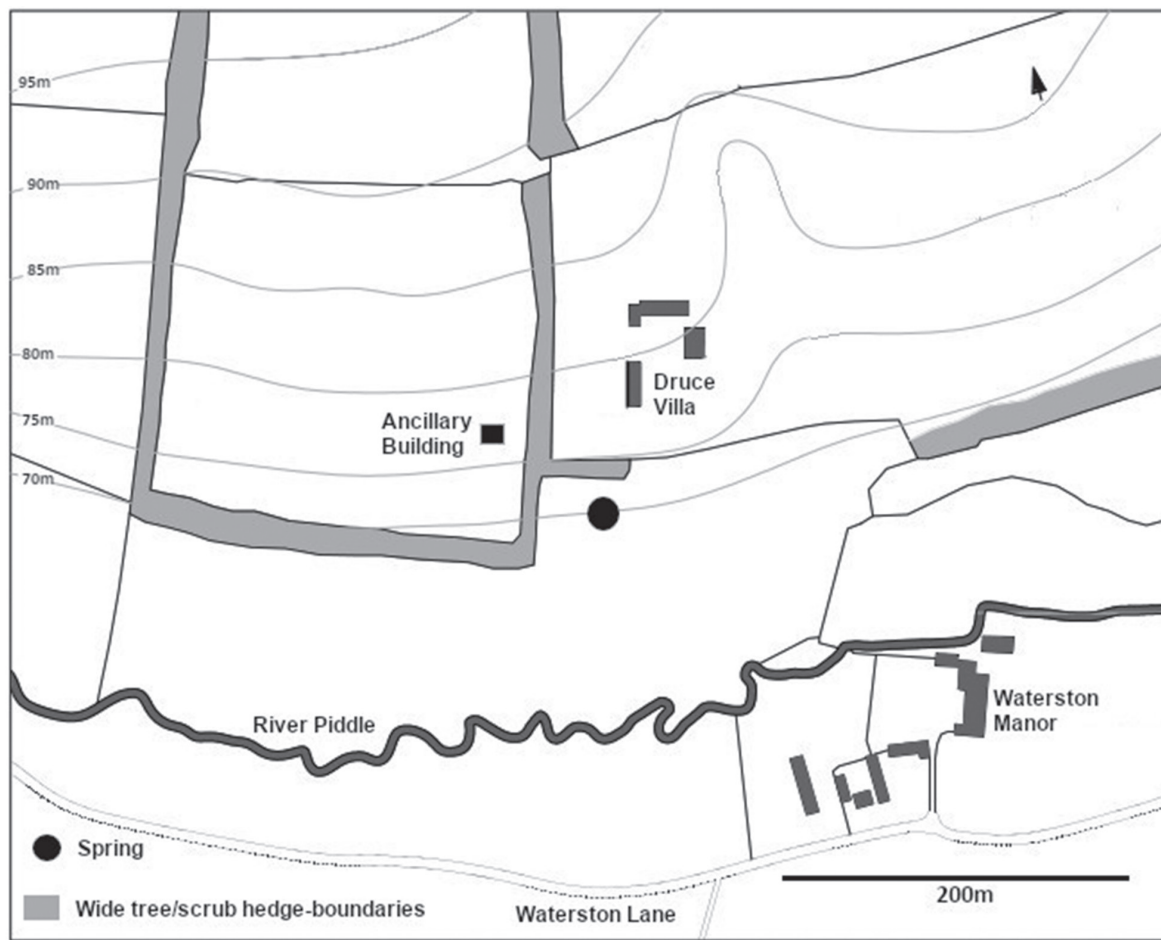


Fig. 1.4. Contour plot and location of the villa buildings and spring line

where Roman material was located, including the western side of the extensive Lower Limepits field. Detectorist, the late Dr Ken Wheatley, invited the author to view this field in 2009 due to the presence of large fragments of Roman ceramic and limestone roof tiles. After consulting the owner, a walkover survey was conducted in 2011. The collected finds included large amounts of building material and occupation debris confirming high potential for the location of a Roman settlement.

Geophysical surveys

An initial geophysical survey of an area measuring 120m by 120m comprising magnetometry and earth resistivity was conducted by Hannah Simpson of Bournemouth University in 2011. The results suggested the presence of three poorly preserved buildings situated on the east, west and north of a central courtyard, with associated enclosures and field systems (Ladle and Simpson 2012, 108). As the fieldwork progressed, further surveys were conducted in 2014 and 2016 by Dave Stewart (Bournemouth University and EDAS) indicating the full extent of the site (Fig. 1.5).

Equipment

The survey equipment comprised a Bartington 601 gradiometer which employs twin gradiometers one

metre apart. The one metre vertical separation of sensors within each gradiometer on this instrument gives a theoretical detection depth of approximately one metre but may accentuate surface readings. A Geoscan FM256 gradiometer, which employs two fluxgate magnetometers 0.5m apart, was used in the 2011 survey. The vertical separation of sensors on this instrument gives a theoretical detection depth of approximately half a metre.

Magnetometry measures the effect of buried objects on the Earth's magnetic field. It is most effective on negative features, provided that the topsoil and sub-soil contain differing proportions of iron oxide, and on hearths and objects containing iron or nickel. By measuring the difference in readings from two sensors mounted vertically, a gradiometer eliminates interference from local objects such as power lines and deep geology.

The excavations

Mrs Ridout and her family were eager to find out as much as possible about this potential Roman site and, with this in mind, approached EDAS to arrange further work which took place between 2012 and 2018. A total of 153 weeks were worked Monday to Friday (10am – 4pm) by a core group of 20 volunteers; a further 90 people and supervised groups of school children also spent time on the project.



Fig. 1.5. Composite geophysical surveys in Lower Limepits, Eleven Acres and Watery Mead.

Archaeological methodology

No previous work had been undertaken on this site and strategies for investigation were developed on an annual basis dependent on the excavation results and advice from academic colleagues. In 2012, three trenches (T1, T2 and T3) were opened; a depth of approximately 0.2m of topsoil was removed by the farm bulldozer and the exposed areas cleaned by hand. In 2013, a small back-acting excavator was hired and used to expose a further seven trenches (T4 -T10). This machine was used to clear further areas at the beginning of the season in 2014, but in May that year EDAS member Robert Heaton provided a small JCB which subsequently cleared areas as and when needed. A total of 90 trenches were opened and numbered T1 to T90 (Fig. 1.6).

During the seven years of excavation a total of 2,296 contexts were recorded comprising clearances, features, layers, walls, pits, deposits, middens and large and small enclosures. A continuous series of context numbers were allocated, and stratigraphic and inter-context relationships

were noted. All features were recorded by section at a scale of 1:10. Site plans were produced at scales of 1:10, 1:20; 1:50 and 1:100. A site record was maintained using forms derived from the AC Archaeology recording system. A record of digital images consisting of over 5,000 photographs was compiled. Finds were washed, marked where appropriate, and catalogued by material type. Material was appraised annually and involved the identification, cataloguing and spot dating of all finds. A comprehensive environmental sampling strategy was undertaken consisting of both bulk and hand-retrieved samples.

Regular on-site metal-detecting concentrated initially in and around the villa complex and was later extended to surveys of the adjacent fields. Excavation areas and their related spoil heaps were specifically targeted.

The Dorset County Museum provided access to a drone in 2014 and regular flights in a fixed-wing microlight aircraft by EDAS members Jo Crane and Sue Newman produced invaluable aerial photographs. In 2016, towards

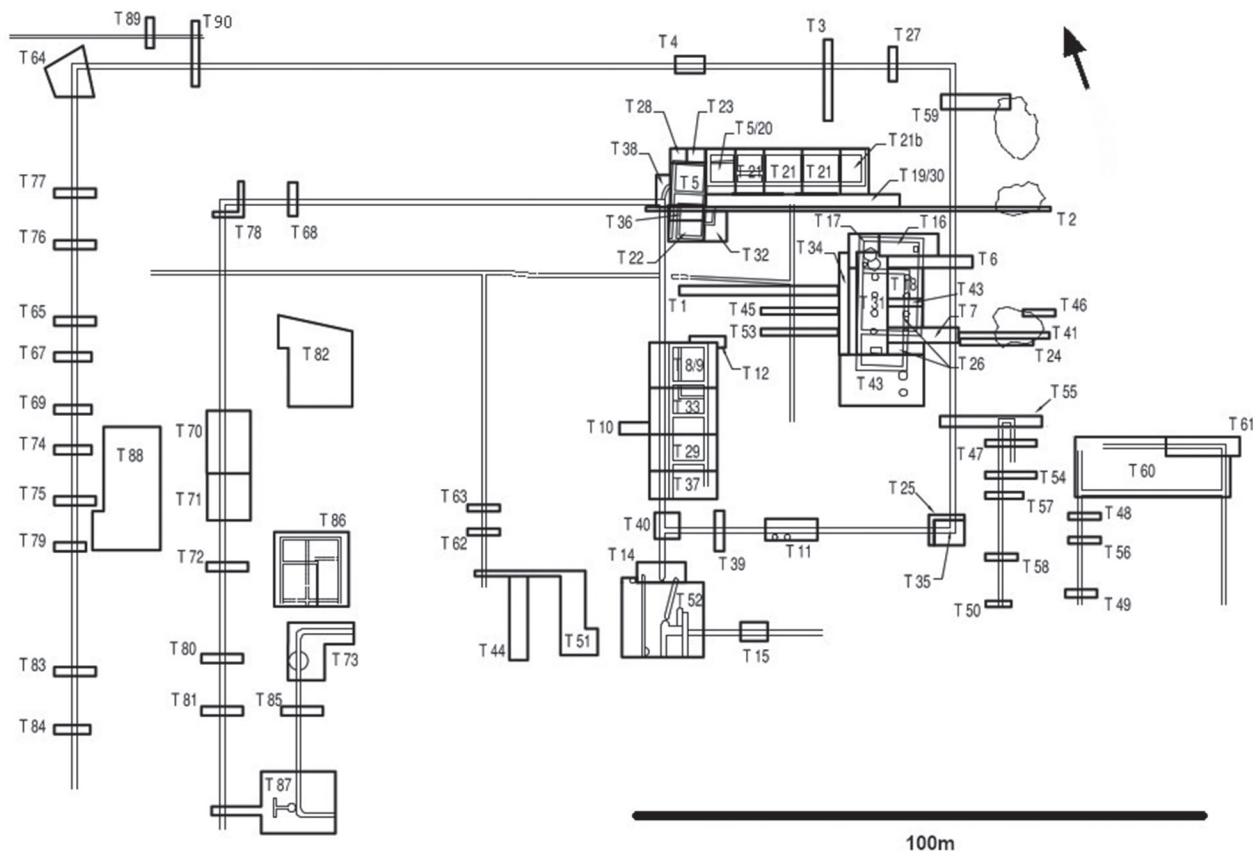


Fig. 1.6. Location of archaeological trenches T1-T90

the conclusion of the excavation in Lower Limepits field, Robert Heaton brought a 12-metre aerial work platform (cherry picker) to the site for photographs. Following a BBC South Today broadcast, Simon Dawson of SIAD Ltd., volunteered to undertake a terrestrial 3D laser scan of the site and the results were made available as a point cloud. The large quantity of data has not yet been processed for lack of the specialised technology, although 2D photographic images were made available. Over two weekends, Ceri Lambdin and a colleague undertook a topographical survey of the villa buildings using a Total Station. John Oswin undertook a topographical survey of each field using a Dumpy Level. Results from these surveys are held in archive.

Local community outreach

From 2013 regular site tours were arranged for individual groups, together with a series of public ‘Open Days’ when the archaeology and artefacts were on view. This work generated valuable publicity for the project and donations towards post-excavation costs. The villa featured in two BBC South Today broadcasts. In 2014 and 2015, in liaison with Dorset County Museum, a Schools Programme was devised by Sue Cullinane and Bryan Popple. Over 250 pupils from 17 schools across Dorset, including all the pupils from the local Piddle Valley Primary School and members of the Dorchester branch of the Young Archaeologists’ Club, were able to spend time on site experiencing hands-on archaeology.

The work and results have been widely disseminated through lectures to archaeology societies, amenity groups and to conferences. An article written by Andrew Selkirk was published in *Current Archaeology* (2017, 28-33). Regular interim reports were published in the *Proceedings of the Dorset Natural History and Archaeological Society*, Association for Roman Archaeology News and the Council for British Archaeology’s newsletters.

Funding

Funding for the project was received from four main sources:

- The landowners Mr and Mrs Ridout and their daughter Amanda provided the initial funds and have continued to provide funding throughout the project.
- The Environmental Research Programme was funded by the Mark Fitch Fund, the Roman Research Trust and the Valentine Charitable Trust.
- Members of the general public made donations after visits to the site on Open Days or as part of an organised group, or after attending a series of talks about the excavation.
- Several members of the excavation team and EDAS members made significant private contributions, with special recognition of large donations from Janet Bartlet, Phil D’Eath and the estate of the late Graham Adams.

Over 87% of the funds were used to engage specialists to undertake various post-excavation tasks. A further 11%

covered other professional services required throughout the project and the remainder was spent on essential materials.

The volunteers spent over 4,889 days on site, receiving no payment and covering their own expenses. This figure does not include the time spent by volunteers on *ad hoc* tasks and specialist post-excavation work. Full details of all receipts, payments and expenses are available in the Druce Roman Villa Project Financial Plan which is part of the project archive.

Project aims

- Determine the chronology of the villa comparing and contrasting with local and non-local examples.
- Examine changes in settlement status and function.
- Examine cultural associations, human remains and non-domestic activities.
- Examine evidence for environmental change, agricultural production, food processing, craft and trade activities.

Summary of Periods

In this volume ‘period’ refers to relative time scales, and ‘phase’ refers to building development. Table 1.1 details the chronological periods and the building and occupation phases of the villa complex, and a series of phase plans (Figs 1.7-14) illustrates the development of the site. The periods, which in some cases have been sub-divided, correspond to:

- Prehistoric up to c. 43 CE (Period 1)
- Early Roman c. 43-120 CE (Periods 2.1 and 2.2)
- Middle Roman c.120-250 (Periods 3.1 and 3.2)
- Late Roman c. 250-350/70 CE (Periods 4.1 and 4.2)
- Final Roman c. 350/70-430 CE (Period 5)
- Post-Roman c. 430-650 CE (Period 6)
- Early Medieval c. 650+ CE (Period 7)

Period 1: Prehistoric up to 43 CE (Fig. 1.7)

Flint artefacts dating from the Mesolithic to the Late Bronze Age are scattered across the site. Early Neolithic occupation in Trench 88 was dated by radiocarbon to

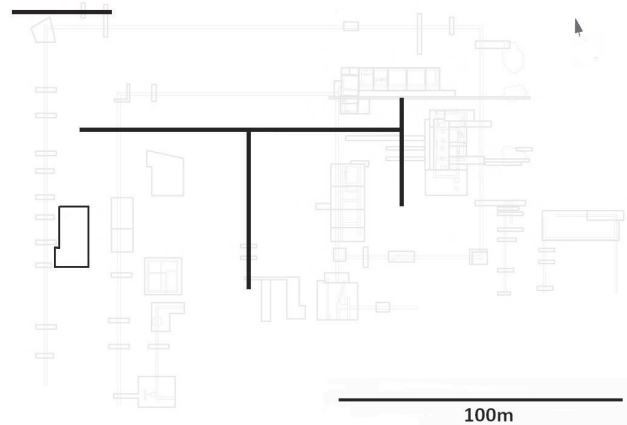


Fig. 1.7. Summary plan Period 1: prehistoric up to 43 CE

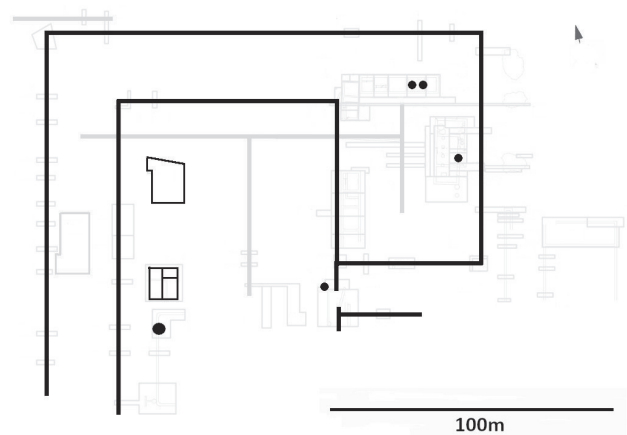


Fig. 1.8. Summary plan Period 2.1: 43-70 CE

between 3941-3705 and 3775-3648 cal BCE. Small numbers of Bronze Age and Iron Age pottery suggest activity in the vicinity. Remnants of undated but pre-Roman field systems were identified.

Period 2.1: 43-70 CE (Fig. 1.8)

A major ditch system delineating two rectangular enclosures was set out. Linear anomalies on the geophysics plot (Fig. 1.5) suggest that this system extended outside the site to

Table 1.1 Periods and phasing of the Druce Villa buildings

ER (Early Roman), MR (Middle Roman), LR (Late Roman), FR (Final Roman) PR (Post-Roman)

Period	Date (CE)	Ancillary Building (phase)	North Range (phase)	East Range (phase)	West Range (phase)	T82 Occupation (phase)
2.1 (ER)	43-70	1				1
2.2 (ER)	70-120	2	1	1		2
3.1 (MR)	120-200	3	2	2	1	3
3.2 (MR)	200-250		3			
4.1 (LR)	250-300			3	2	
4.2 (LR)	300-350/70		4	4		
5 (FR)	350/70-420		5	5		
6 (PR)	420-650		6	6		

the south. A small, square flint-walled 'Ancillary Building' was constructed to the west in the larger inner enclosure together with a contemporary 'Occupation Area' to the north and a large pit (1735) to the south. Ironworking was located on the eastern side of this enclosure. Three pits were recorded in the eastern enclosure.

Period 2.2: 70-120 CE (Fig. 1.9)

The enclosure system ceased to be maintained and infilling with domestic rubbish commenced. Pit 604 was dug into ditch 308. The Ancillary Building was reconfigured and pit 1735 and the Occupation Area continued in use. Towards the end of this period a small enclosure was set out south of the Ancillary Building. The first phases of the flint-walled North and East Ranges were constructed; the North Range comprising a strip building of four rooms, the western-most (N3) built at a lower level. The East Range was rectangular in form. Pit 1182 on the south-east corner of the East Range was probably dug as a well.

Period 3.1: 120-200 CE (Fig. 1.10)

There was further infilling of the enclosure system and occupation of the Ancillary Building and Occupation Area

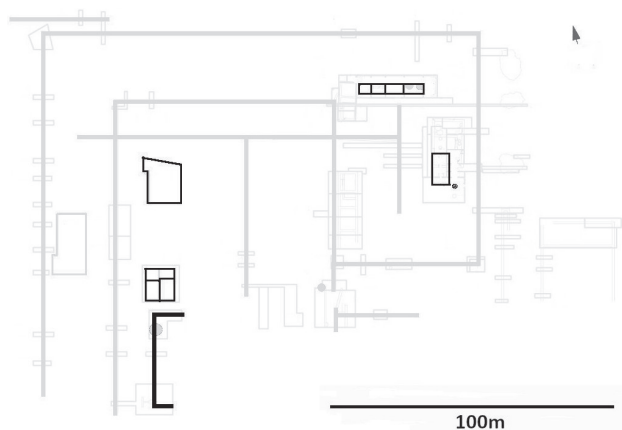


Fig. 1.9. Summary plan Period 2.2: 70-120 CE

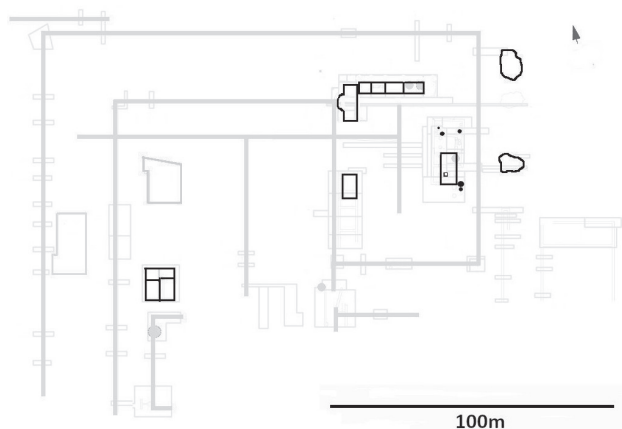


Fig. 1.10. Summary plan Period 3.1: 120-200 CE

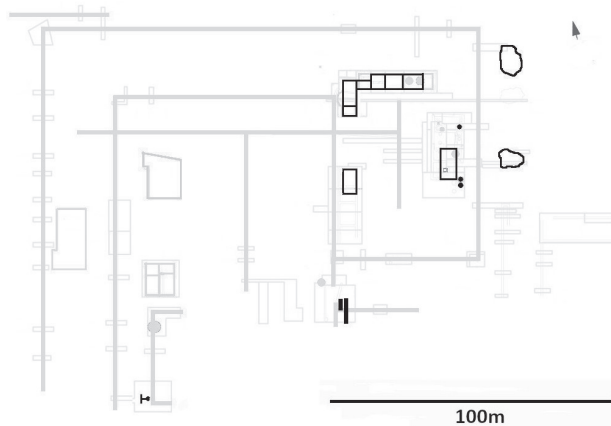


Fig. 1.11. Summary plan Period 3.2: 200-250 CE

continued. An apsed extension was constructed to the west of the North Range. The East Range was extended north, and a small waterproof tank installed. Pit 1182 continued in use and a similar deep pit 1181/1149 was dug beside this. A probable cess pit 381 was dug to the north-east of the building and two other pits (209 and 896) were located to the west of this. To the south of the North Range, a flint-walled, single-roomed building comprised the first phase of the West Range. Two midden deposits (1355 and 1529) were located to the east of the North and East Ranges.

Period 3.2: 200-250 CE (Fig.1.11)

Major work on the North Range consisted of demolishing the apsed extension and constructing a probable three-room west extension over this and abutting the original range. Rooms N6, N7 and N10 were extended north and a corridor N11 gave access to these. The first mosaics were laid in Rooms N2, N10 and N11. Two parallel ditches (1459 and 1510) were dug inside the largely infilled inner enclosure south of the villa. A stone and flint-walled grain dryer was constructed to the west of the villa.

Period 4.1: 250-300 CE (Fig. 1.12)

The East Range was demolished and an Aisled Hall (which utilised the west wall of the previous building) with six pier bases was constructed. The waterproof tank was retained. The West Range was rebuilt forming four large rooms, two of which contained stone-built ovens. A new midden (1528) on the south side of the site was begun and the midden areas to the east of the complex continued in use. The enclosure ditches around the villa continued to be used for rubbish disposal. A small rectangular Eastern Enclosure was set out to the east of the villa complex and a north-south 'hooked' linear was dug to the west of this. The grain dryer continued in use.

Period 4.2: 300-350/70 CE (Fig. 1.13)

In the North Range, Room N3 was extended north. The mosaic in Room N10 was replaced and a further room

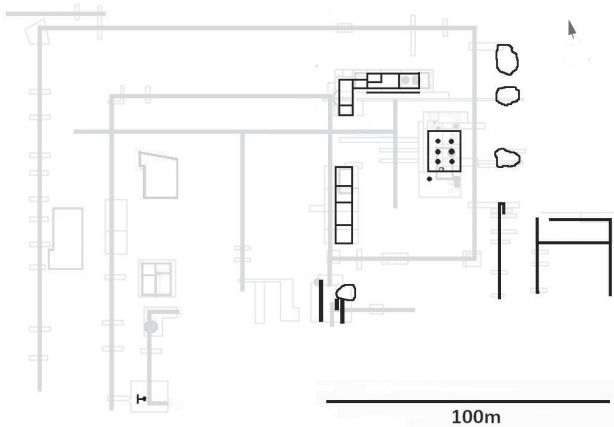


Fig. 1.12. Summary plan Period 4.1: 250-300 CE

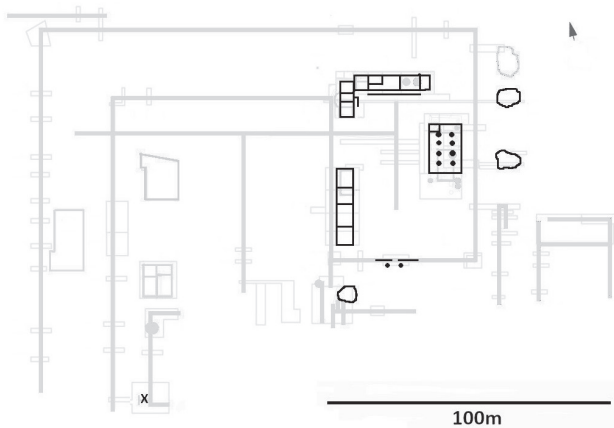


Fig. 1.13. Summary plan Period 4.2: 300-350/70 CE into the early 5th century

(N9) was built to the east of this. Rooms N1 and N2 to the west were re-modelled, new mosaics laid and a porch (or lobby) N4 constructed. The Aisled Hall was extended north with two more pier bases. The floor level was raised, and an oven built in the north-west corner. A new midden area (315) was created in addition to those already in use. A formal entrance was constructed over ditches 311 and 312 and there was major re-cutting of enclosure 313. Infilling was noted in the easternmost ditches set out in the previous period. The grain dryer was abandoned, and an adult male (X) was buried in the stoke pit.

Period 5: 350/70-430 CE

Crude repairs to the mosaic floors in Rooms N1 and N7 were undertaken. At the end of this period a series of small pits were dug in Rooms N9, N10 and N11. The Aisled Hall continued in use as did the West Range but by the late 4th/early 5th century the large oven in Room W1 was abandoned. Three of the four middens continued in use; enclosure 313 was re-cut and late Roman pottery, probably from the Aisled Hall, was discarded on top of this ditch and ditches 308 and 311 in the vicinity of the West Range. Smaller amounts of rubbish were deposited in ditches in the north-east corner of the site.

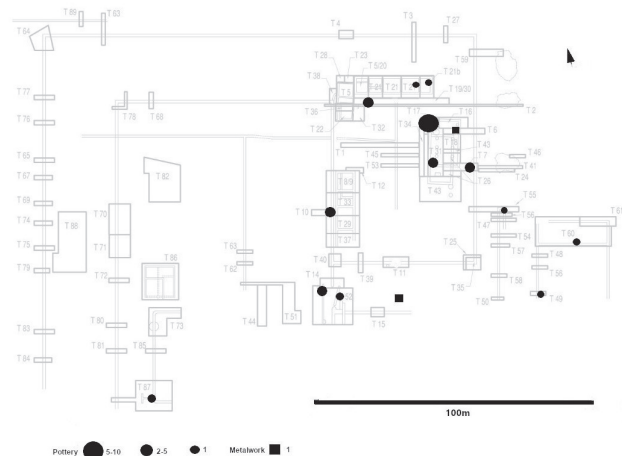


Fig. 1.14. Distribution of Period 6 metalwork and pottery indicating activity in and around the villa in the 5th and 6th centuries

Period 6: 430-650 CE (Fig. 1.14)

Collapse of the three ranges of buildings with the fall of roofs (limestone and ceramic tiles) and flint walls. Pit digging occurred through this material in the north-west corner of the Aisled Hall, the pit fills contained large amounts of building debris and domestic rubbish relating to earlier phases of occupation, but also contained pottery dating the pit-digging to this later post-Roman period. Similarly dated pottery and two metal objects confirm activity in the decaying villa buildings.

Period 7: 650+ CE

Total abandonment of the villa; the site reverts to agriculture, probably grassland. Very small amounts of pottery and coins attest to occasional activity on the two fields probably from the Waterston settlement on the south side of the river.

Radiocarbon dating

Introduction

In total 10 radiocarbon samples from Druce Farm were processed and dated at the Scottish Universities Environmental Research Centre (SUERC) at East Kilbride. The samples comprised four carbonised macrofossils, five animal bone and one human bone.

The dating programme was designed to address the following objectives:

- Date the Neolithic feature
- Date the earliest activity in the East Range
- Confirm the date of an oven in order to correctly phase Room N5
- Date the collapse of the roof over Room N1 in the North Range
- Date the skeletal remains from the stoke pit of the grain dryer

- Date the latest activity in Room N3
- Date the pit containing four juvenile sheep in Room N9 in the North Range
- Date the pit containing two adult sheep in Room N10 in the North Range

Sampling strategy

Financial constraints limited the number of samples which could be submitted for radiocarbon dating. Material submitted included charred grains, animal and human bone. Samples were selected where pottery or coins were not available.

Results and Calibration

The results are presented on Table 1.2 and are conventional radiocarbon ages (Stuiver and Pollach 1977) which are cited according to Trondheim convention standards (Stuiver and Kra 1986). The ¹⁴C ages are quoted in conventional years BP (before 1950 CE) and require calibration to the calendar timescale. The error expressed at the one sigma level of confidence includes components from the counting statistics on the sample, modern reference standard and

blank and the random machine error. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration programme (OxCal4). The calibration plots were calculated using methods derived from Bronk Ramsey *et al.* (2013) and Reimer *et al.* (2013). Date ranges were calculated using the IntCal20 atmospheric calibration curve (Reimer *et al.* 2020). All certificates and calibration curves are held in archive.

The results confirmed that eight of the ten dates returned from the samples were compatible and in accordance with the suggested phasing for the site. The dates from the small mammals from owl pellets associated with the abandonment of use of Room N1 in the North Range however are anomalous given the weight of other evidence.

Deposition and further work

The site archive will be deposited in the Dorset County Museum. Due to limited storage, only finds from features noted in this publication will be deposited. The remaining material finds are retained by the landowner. There

Table 1.2. Radiocarbon determinations from selected features

Laboratory Code	Sample	δ ¹³ C relative to VPDB	δ ¹⁵ N relative to air	C/N ratio (Molar)	Radiocarbon Age (BP)	Calibrated date Range (95% confidence)
SUERC-77831 (GU46699)	DF 1880 Wheat grain <i>Tritium sp</i> from layer of feature 1860	-25.3 ‰			4928 ± 34	cal 3775-3648 BCE
SUERC-77832 (GU46700)	DF 1877 Hazelnut shell <i>Colylus avellana</i> from layer of feature 1860	-25.0 ‰			5008 ± 30	cal 3941-3858 BCE cal 3816-3705 BCE
SUERC-100062 (GU58584)	DF1060 <i>Emmer/spelt</i> from oven 1045 in the East Range	-22.3 ‰	2.9 ‰	3.3	1719 ± 29	cal 129-254 CE cal 289-321 CE
SUERC-100061 (GU58583)	DF1009 <i>Emmer/spelt</i> from oven 992 in Room N5	-20.2 ‰			1831 ± 29	cal 126-253 CE cal 290-320 CE
SUERC-100059 (GU58581)	DF 822 Sheep/goat femur from pit 818 in Room N10	-21.3 ‰	5.3 ‰	3.3	1776 ± 29	cal 216-362 CE
SUERC-100055 (GU58580)	DF 799 Sheep/goat tibia from pit 798 in Room N9	-21.0 ‰	5.2 ‰	3.2	1746 ± 29	cal 241-401 CE
SUERC-100060 (GU58582)	DF 577 Cattle skull fragment from floor of Room N3	-21.1 ‰	5.0 ‰	3.3	1692 ± 29	cal 255-285 CE cal 326-421 CE
SUERC-84712 (GU50205)	DF 1957 Human bone from stoke pit 1964 of grain dryer	-19.6 ‰	8.9 ‰	3.3	1740 ± 26	cal 240-381 CE
SUERC-62809 (GU38738)	DF 197 Water vole left mandible (1) from deposit over mosaic 1 (153), Room N1	-22.3 ‰	2.9 ‰	3.3	1719 ± 30	cal 249-391 CE
SUERC-62810 (GU38739)	DF 197 Water vole left mandible (2) from deposit over mosaic 1 (153), Room N1	-23.3 ‰	6.1 ‰	3.3	1768 ± 30	cal 140-197 CE cal 208-346 CE

is potential for further work on a number of the finds categories, in particular, analysis of the paint pigments used on the wall plaster, analysis of the mortar and fabric analysis of the ceramic tiles. The small collection of human remains could yield DNA information. The biggest potential of course is the villa site itself: developing technology and additional excavation may answer some of the questions which have been highlighted in the following pages.